United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued April 4, 1996 Decided May 10, 1996

No. 95-5282

HÜLS AMERICA INC.,
APPELLANT

v.

CAROL M. BROWNER,
ADMINISTRATOR, AND
THE ENVIRONMENTAL PROTECTION AGENCY,
APPELLEES

Appeal from the United States District Court
for the District of Columbia
(No. 95cv00042)

William K. Rawson argued the cause and filed the briefs for appellant.

Ellen J. Durkee, Attorney, United States Department of Justice, argued the cause for appellees, with whom *Lois J. Schiffer,* Assistant Attorney General, *Mary F. Edgar* and *Albert M. Ferlo, Jr.,* Attorneys and *Alan H. Carpien,* Counsel, Environmental Protection Agency, were on the brief.

Before: WALD, GINSBURG and HENDERSON, *Circuit Judges.*

Opinion for the Court filed by *Circuit Judge* WALD.

WALD, *Circuit Judge*: Hüls America Inc. ("Hüls") appeals the district court's grant of summary judgment to the Environmental Protection Agency ("EPA") in Hüls' suit challenging the EPA's refusal to remove isophorone diisocryanate ("IPDI") from the list of extremely hazardous substances ("EHS list") promulgated pursuant to section 302 of the Emergency Planning and Community Right to Know Act ("EPCRA"), 42 U.S.C. § 11002 (1988). We agree with the EPA that its interpretation of section 302 to allow continued inclusion on the EHS list based on toxicity alone is a permissible construction of that law and that the EPA's refusal to delist IPDI was not arbitrary and capricious, and therefore affirm the grant of summary judgment.

I. BACKGROUND

EPCRA was enacted on October 17, 1986 as Title III of the Superfund Amendments and

Reauthorization Act of 1986, Pub. L. No. 99-499 (1986), (codified at 42 U.S.C. §§ 11002-11050). The purpose of EPCRA was to provide communities with information on potential chemical hazards within their boundaries and to foster state and local emergency planning efforts to control any accidental releases. *See* H.R. REP. NO. 253, 99th Cong., 2d Sess., pt. 1 at 60; *Emergency Planning and Community Right to Know Programs, Interim Final Rule,* 51 Fed. Reg. 41,570, 41,570 (1986) (hereinafter *Interim Rule*). To achieve this end, EPCRA imposed a system of notification requirements on industrial and commercial facilities and mandated that state emergency response commissions and local emergency planning committees be created. The local emergency planning committees were charged with developing emergency response plans based on the information provided by facilities. *See* 42 U.S.C. §§ 11001-11003. In addition, EPCRA granted members of the public the right to know the information reported by the facilities and the contents of emergency response plans. *See id.* at § 11044.

Section 302, the provision at issue here, is an integral part of the notification system created by EPCRA. Section 302 required the EPA to promulgate the EHS list and establish a threshold planning quantity ("TPQ") for each substance included. *See* 42 U.S.C. § 11002(a). A TPQ represents the amount of an EHS list substance that the EPA believes generally can be present at a facility without posing a hazard to the surrounding community in the case of an accidental release. *See Interim Rule,* 51 Fed. Reg. at 41,572. A facility must notify the state emergency response commission within 60 days if a listed substance becomes present at the facility in an amount above the substance's TPQ. *See* 42 U.S.C. §§ 11002(b), 11002(c). Other provisions require that the facility inform the local emergency planning committee of any relevant changes at the facility and designate a facility emergency coordinator who will work with the committee in developing an emergency response plan. *See id.* at § 11003(d). In addition, any facility producing, using, or storing an EHS list substance must notify the local emergency response committee of an accidental release of one pound or more of the substance, unless the EPA has set a different release quantity, regardless of the total amount of the substance present at the facility. *See id.* at § 11004. However, accidental releases that result only in on-site exposure (*i.e.,* exposure to persons within the confines of the facility) are

exempt from the accidental release notification requirements. *See id.* at § 11004(a)(4).

Section 302 further mandated that an initial EHS list be published within 30 days of EPCRA's enactment and granted the EPA the authority to revise the list. The initial EHS list was required to be identical to an existing list promulgated by the EPA in 1985 pursuant to the Chemical Emergency Preparedness Program ("CEPP"). In order to compile the CEPP list, the EPA established definitions of "acutely toxic" substances in regard to three forms of exposure: inhalation exposure (exposure via breathing), oral exposure (exposure via ingestion), and dermal exposure (exposure via the skin). The definition of acutely toxic for inhalation exposure, which is the form of exposure most likely to affect surrounding communities, is that a substance caused the death of at least 50% of the animals exposed over a period of up to eight hours when released at a concentration of .5 milligrams per liter of air or lower. This definition is expressed as a median lethal concentration (LC_{50}) of .5 mg/l or lower.[1] Next, the EPA examined data on toxicity in the Registry of Toxic Effects of Chemical Substances ("RTECS"), a comprehensive repository of toxicity data that is maintained by the National Institute of Occupational Safety and Health ("NIOSH"). RTECS contains acute and basic toxicity data on 79,000 chemicals. Using the RTECS data, the EPA compiled a list of 402 chemicals that had an LC_{50} of .5 mg/l or lower and therefore met its definition of acutely toxic upon inhalation exposure. *See* CHEMICAL EMERGENCY PREPAREDNESS PROGRAM: INTERIM GUIDANCE §§ 6.1 TO 6.7 (EPA 1985); *see also Interim Rule,* 51 Fed. Reg. at 41,573-75.[2]

As mandated by section 302 of EPCRA, the EPA published the CEPP list as the initial EHS list on November 17, 1986, within thirty days of EPCRA's enactment. The EPA simultaneously published an interim rule describing the methodologies the EPA proposed to use to determine revisions to the EHS list and to calculate TPQs. *See Interim Rule,* 51 Fed. Reg. 41,570. In the

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[1]For ease of explication, the following discussion is in terms of median lethal concentration only and not in terms of median lethal dose (LD_{50}), which is used in regard to oral or dermal exposure. Some of the details of the methodologies used to determine EHS list revisions and to calculate TPQs vary for substances with LD_{50} measurements instead of LC_{50} measurements.

[2]Where no LC_{50} existed for a substance, the EPA used LC_{LO} data, which represents the lowest concentration at which some test animals died, and included any chemical which had an LC_{LO} of .5 mg/l or lower. *See Interim Rule,* 51 Fed. Reg. at 41,574. Specific details on how the methodologies described here vary in regard to LC_{LO} data are omitted.

interim rule the EPA proposed to use acute toxicity as the sole criterion for determining revisions to the EHS list and to retain the CEPP definitions of acute toxicity. Thus, any substance with an LC_{50} of .5 mg/l or lower would not be removed from the EHS list. *See id.* at 41,573-75; *Proposed Rules, Emergency Planning and Community Right To Know Programs,* 51 Fed. Reg. 41,593, 41,593 (1986).

In contrast, the EPA proposed to take into account both the risk that the substance would become airborne and disperse if accidentally released and the substance's toxicity in calculating TPQs. Substances that become airborne and disperse quickly represent a greater health hazard for surrounding communities if an accidental release occurs, since such substances are more likely to cause off-site exposure. Several key factors affect whether a substance will become airborne and disperse. One such factor is the substance's volatility, or its tendency to evaporate. Vapor pressure is generally used as the measure of volatility; thus a substance with a high vapor pressure is more volatile than a substance with a low vapor pressure.[3] Other factors are whether the substance is flammable, which means that it generates sufficient vapor to ignite at low temperatures, whether it reacts violently when exposed to air or water, and its physical state (gas, liquid, or solid) at ambient temperatures. *See Interim Rule,* 51 Fed. Reg. at 41,575.

The TPQ methodology proposed by the EPA used all of these factors—volatility, flammability, reactivity, and physical state—in calculating TPQs. This methodology focused on determining the risk of off-site exposure associated with a particular EHS list substance in comparison to other substances, rather than on estimating this risk in absolute terms. Through an equation that factored in data on a substance's toxicity, physical state, vapor pressure, and molecular weight, the EPA calculated an "index value" for each substance. In the case of liquids, the EPA assumed that any accidental release would result in a pool of the liquid 1 cm. deep and would occur at boiling point

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[3]When a liquid comes in contact with the air it emits molecules, referred to as vapor. Vapor pressure represents the maximum pressure of the vapor when the vapor and liquid are at equilibrium—that is, when molecules are released from the liquid as vapor and return to the liquid through condensation at the same rate. Vapor pressure changes with temperature and is usually measured at ambient conditions (room temperature and pressure). *See* 19 MCGRAW-HILL ENCYCLOPEDIA OF SCIENCE & TECHNOLOGY 160-61 (6th ed. 1987).

conditions, which were approximated by using the substance's boiling point temperature and a vapor pressure of 760 mm/Hg. The index value represented the comparative degree of risk that an accidental release of the substance would result in off-site exposure, and each substance was assigned one of five possible TPQ levels—2 lbs., 10 lbs., 100 lbs., 1,000 lbs. or 10,000 lbs.—depending on its index value. Substances with low index values were assigned a TPQ of 2 lbs., while substances with high index values received a TPQ of 10,000 lbs. and substances with intermediate index values received a TPQ of either 10 lbs., 100 lbs., or 1,000 lbs. *See Interim Rule,* 51 Fed. Reg. at 41,575-77, 41,580.

On April 22, 1987, the EPA published a final rule on the EHS list and TPQ methodologies. *See Extremely Hazardous Substances List and Threshold Planning Quantities, Emergency Planning and Release Notification Requirements, Final Rule,* 52 Fed. Reg. 13,378 (1987) (hereinafter *Final Rule*). The EPA stated that it had decided to adopt the proposed EHS listing criteria and therefore revisions to the EHS list would be based only on toxicity and not on other physical and chemical properties of substances. *See id.* at 13,387-88.[4] The EPA noted that it "intend[ed] to evaluate hazards other than toxicity ... to develop appropriate criteria based on ... physical/chemical properties, e.g. flammability, for revising the extremely hazardous substances list in the future." *Id.* at 13,388. The EPA also adopted some suggestions for changes in the TPQ methodology, including adding a 1 lb. TPQ category for three particularly toxic substances.

IPDI is a component of polyurethanes, particularly polyurethanes used in automobile paint and other weather resistant coatings. IPDI was included on the CEPP list and thus on the initial EHS list because it has an LC_{50} of .26 mg/l.[5] This LC_{50} for IPDI was derived from experiments where rats

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[4]The EPA also stated that certain substances would not be removed from the EHS list, even though it was clear that these substances did not meet the criteria for acute toxicity and had been erroneously included on the CEPP list, until the EPA could determine whether they had nonlethal or chronic effects. *See Final Rule,* 52 Fed. Reg. at 13,388-89. This position represented a change from the approach outlined in the interim rule. In *A.L. Lab., Inc. v. EPA,* 674 F. Supp. 894 (D.D.C. 1987), the EPA was ordered to remove any substance that was on the EHS list because it had been erroneously included on the CEPP list. *See id.* at 900.

[5]The LC_{50} for IPDI has now been revised and is listed as .123 mg/l in the RTECS database. *See* JA 8 n.5. Since this new reading does not change IPDI's status as acutely toxic under the EHS list criteria and since the petition denial and briefs refer to IPDI as having an LC_{50} of .26

were exposed to IPDI in a respirable aerosol form and not as a vapor. A liquid exists in aerosol form when droplets of the liquid are suspended in the air, while a vapor is more akin to a gas. The maximum concentration of IPDI vapor that can be present in the air, referred to as its saturated vapor concentration, is low because IPDI has a very low vapor pressure. IPDI does not produce toxic effects when tested at its saturated vapor concentration and therefore vapor tests cannot be used to calculate the toxicity of IPDI upon inhalation. A measure of IPDI's toxicity can be derived from aerosol tests, however, because higher air concentrations of IPDI are possible when IPDI is in aerosol form.

On November 25, 1992, Hüls petitioned the EPA to remove IPDI from the EHS list. Hüls claimed that since IPDI has low volatility and flammability, IPDI posed little risk of off-site exposure and should not be included on the EHS list. Hüls did not present evidence contradicting the results of the aerosol tests that showed IPDI to have an LC_{50} of .26 mg/l. Hüls argued, however, that a toxic air concentration of IPDI was extremely unlikely to ever occur in practice because at its saturated vapor concentration IPDI is not toxic. Therefore, the mere exposure of liquid IPDI to air or the accidental release of IPDI vapor could not create a toxic concentration of IPDI. In addition, Hüls maintained that toxic levels of aerosol IPDI would not occur, because most aerosol IPDI quickly precipitates out of the air after being released and IPDI is not very reactive with water. But Hüls acknowledged that it was theoretically possible that toxic levels of aerosol IPDI could be generated under extreme conditions such as an explosion.

On October 12, 1994, in a proposed rulemaking that addressed several EHS list petitions, the EPA denied Hüls' delisting petition for IPDI. *See Superfund Program, Extremely Hazardous Substance List, Proposed Rule and Final Rule Correction,* 59 Fed. Reg. 51,816 (1994) (hereinafter *Petition Denial*). The EPA noted that IPDI's LC_{50} of .26 mg/l fell within the EPA's definition of an extremely hazardous substance, which includes all substances with an LC_{50} of .5 mg/l or lower. *See id.* at 51,819. The EPA also claimed that "extreme conditions not likely to be found in reality" are frequently used in tests to determine toxicity, and argued that the use of extreme conditions did not

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mg/l, our discussion will continue to refer to IPDI as having an LC_{50} of .26 mg/l.

change "[t]he fact that IPDI is toxic at low levels, based on LC_{50}, compared to other chemicals." *Id.* The EPA stated that test conditions were relevant to setting TPQ levels but not to determining EHS list revisions. Although the EPA denied the delisting petition, it increased the TPQ for IPDI from 100 pounds to 1,000 pounds in response to the information on IPDI's physical and chemical properties. *See id.* at 51,817-18.

Hüls sought review of the EPA's delisting denial pursuant to the Administrative Procedure Act claiming that the EPA's approach of determining delisting on the basis of toxicity alone was contrary to law and that the application of this approach to IPDI, given IPDI's characteristics, was arbitrary and capricious. *See* 5 U.S.C. §§ 704, 706(2)(A), 706(C). The district court granted the EPA's motion for summary judgment on the grounds that the EPA's use of toxicity as the sole criterion for determining revisions to the EHS list was a permissible construction of section 302 of EPCRA. The district court also found that the delisting denial was not arbitrary and capricious.

II. DISCUSSION

Hüls raises two issues on appeal. Hüls first argues that the EPA's use of toxicity as the sole criterion for determining revisions to the EHS list violates section 302 of EPCRA. Hüls further maintains that even if the EPA's approach represents a permissible construction of section 302, the EPA's application of this approach to IPDI is arbitrary and capricious. We review a grant of summary judgment *de novo. Petersen v. Dole,* 956 F.2d 1219, 1221 (D.C. Cir. 1992). Based on our review, we conclude that the EPA's approach represents a permissible construction of section 302 and that the EPA's justification for applying its construction of section 302 to IPDI, while terse indeed, manages to stay inside the line of reasonable decisionmaking.

A. *The EPA's Interpretation of Section 302*

Since Congress has entrusted implementation of EPCRA to the EPA, *Chevron* 's two-step analysis governs our review of the question of whether the EPA's delisting approach violates the law. Under *Chevron,* we first determine whether Congress' intent is clear regarding the precise question of statutory interpretation decided by the agency. If it is not, we then ask only "whether the agency's answer is based on a permissible construction of the statute." *Chevron, U.S.A., Inc. v. Natural*

Resources Defense Council, Inc., 467 U.S. 837, 842-43 (1984).[6]

The language of section 302 does not speak clearly to whether toxicity can be used as the sole criterion for determining revisions to the EHS list. The relevant provision is section 302(a)(4), which states that "[a]ny revisions to the list shall take into account the toxicity, reactivity, volatility, dispersability, combustibility, or flammability of a substance." 42 U.S.C. § 11002(a)(4). This language does not unambiguously answer the question of whether revisions can be based on toxicity alone. The fact that Congress used the disjunctive connective "or" suggests strongly that it did not intend to require the EPA to consider all of the factors when making revision decisions. On the other hand, the use of the phrase "shall take into account" to introduce the list of factors might be read to imply that the EPA's discretion to consider only those factors it deems relevant is limited.

We turn, therefore, to whether the EPA's "toxicity-only" approach represents a permissible interpretation of section 302. The use of the disjunctive "or" instead of the conjunctive "and" certainly leaves section 302 open to the interpretation that it authorizes the EPA to make revisions based on any, some, or all of the section 302 factors. *See Northwest Airlines v. FAA,* 14 F.3d 64, 69 (D.C. Cir. 1994) (where statute lists criteria for approval linked by "or," agency's interpretation of statute as authorizing approval on the basis of any one of the factors listed is "eminently reasonable"). The controlling weight in the disjunctive "or" is reduced somewhat when used with a list of factors which the agency "shall take into account," but even so the agency's interpretation is not precluded by section 302's language. Given its use here alongside a disjunctive list, the phrase can be reasonably interpreted as limiting the EPA's authority to consider additional factors in making EHS list revisions rather than as mandating that the EPA consider every factor listed.

Nor is the EPA's interpretation impermissible because the agency considers only one factor, toxicity, in all cases. While the fact that Congress included a list of factors in section 302(a)(4) suggests that Congress considered all these factors to be relevant in revising the EHS list, nothing in

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[6]Since the EPA has never adopted any different interpretation of section 302, although it has suggested it could reconsider its EHS list revision methodology, it merits traditional *Chevron* deference. *Cf. INS v. Cardoza-Fonseca,* 480 U.S. 421, 446 n.30 (1987) (less deference due where agency had adopted three different interpretations of statutory provision over time).

the language of the provision prohibits the EPA's across-the-board approach based on one factor. *See, e.g., Clinton Memorial Hosp. v. Shalala,* 10 F.3d 854, 857 (D.C. Cir. 1993) (regulation precluding certain hospitals from ever qualifying as "sole community hospitals" on the basis of location alone was permissible construction of statute, even though statute listed other factors in addition to location by which sole community hospitals could be identified).

Hüls argues that section 302 represents one of those occasions where an "or" should be construed conjunctively to avoid defeating the plain purpose of the statute or producing an unreasonable result. *See, e.g., Bob Jones Univ. v. United States,* 461 U.S. 574, 586-87 (1983); *Schuler v. United States,* 628 F.2d 199, 201 (D.C. Cir. 1980) (en banc). We think that reading "or" in accordance with its normal disjunctive meaning—as the EPA has done—comports with the structure and purpose of EPCRA as a whole. EPCRA establishes a two-level scheme of regulation, with the EHS list constituting the first and the TPQ the second level. The only required result of a substance being included on the EHS list is that a TPQ will be promulgated for the substance.[7] Facilities need not notify emergency response commissions or cooperate with emergency planning unless they possess a listed substance in an amount exceeding its TPQ. Thus, while inclusion on the EHS list is not totally devoid of regulatory impact, only the TPQ triggers any significant regulatory burden. The EPA's toxicity-only approach accommodates this statutory scheme by requiring that a substance's TPQ be based on the actual risk that a release of the substance will result in off-site exposure.[8] If this risk is low, the substance receives a high TPQ, up to a maximum of 10,000 pounds.

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[7]Although section 304(a)(2) of EPCRA requires notification if there is an accidental release of more than one pound of an EHS list substance, section 304(a)(4) establishes a blanket exemption from notification for all releases that result solely in on-site exposure. Hence, in practice section 304(a)(2) will not impose significant notification requirements in regard to EHS list substances with a low risk of off-site exposure. *See* 42 U.S.C. §§ 11004(a)(2), 11004(a)(4).

[8]Hüls claims that the TPQs do not in fact reflect the actual characteristics of substances because of the assumption that liquids will be released at their boiling points and at a vapor pressure of 760 mm/Hg. However, Hüls waived this argument by not raising it during the administrative proceedings. *See Ohio v. EPA,* 997 F.2d 1520, 1528-29 (D.C. Cir. 1993). Moreover, the question of whether the specific methodology that the EPA currently uses to calculate TPQs is reasonable is entirely separate from the question of whether the EPA's statutory construction of section 302 is permissible. The EPA's general approach of determining EHS list revisions on the basis of toxicity and correlating the TPQs to actual risk of off-site exposure may be reasonable even if the specific methodology used to calculate TPQs is not.

As a result there is no significant regulatory overreaching, even though the EHS list contains some substances that in practice represent a low risk of off-site exposure.

Moreover, the EPA's toxicity-only approach serves EPCRA's purpose of encouraging the development of emergency plans to control the off-site exposure of hazardous substances. There is no dispute that acutely toxic substances can pose a significant health hazard *if exposure occurs.* Excluding a substance from the EHS list removes the substance from the purview of EPCRA's emergency planning requirements altogether and makes it unlikely that a community will assess the potential risk posed by that substance at particular facilities.[9] Therefore, the net effect of the EPA's toxicity-only approach is to ensure that certain clearly hazardous substances are at least potentially within the scope of local emergency planning. In addition, the EPA's toxicity-only approach does not expand EPCRA's emergency planning requirements beyond the statutory design by forcing communities to develop emergency response plans even where the risk of off-site exposure is nonexistent. The emergency planning requirements are triggered only if an EHS list substance is present at a facility in an amount beyond its TPQ, and the EPA correlates each substance's TPQ to the possibility that an accidental release of the substance will result in off-site exposure.

We conclude that the EPA's toxicity-only approach represents a permissible construction under *Chevron,* since it accords with the language, structure, and purpose of section 302. We turn next to the question of whether the application of this approach in the case of IPDI was nonetheless unlawful because it violated the rule that agency action cannot be arbitrary and capricious.

B. *Application of the EPA's Interpretation of Section 302 to IPDI*

An agency violates the Administrative Procedure Act if its application of a statute is arbitrary and capricious in a particular context, even if this application is based on a permissible construction of the statute. *See* 5 U.S.C. § 706(2)(A); *Chemical Mfrs. Ass'n v. EPA,* 28 F.3d 1259, 1265 (D.C.

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[9]Although several sections of EPCRA mandate that facilities provide information on chemicals present at the facilities, only section 302 is connected to EPCRA's emergency planning requirements. *See* 42 U.S.C. § 11003(c). Another difference is that the other reporting requirements of EPCRA, in particular sections 311 and 312, allow a facility to provide information on categories of chemicals rather than on a substance-by-substance basis unless detailed information is specifically requested. *See id.* at §§ 11021, 11022.

Cir. 1994); *Edison Elec. Inst. v. EPA,* 2 F.3d 438, 446 (D.C. Cir. 1993). Inquiry under the arbitrary and capricious standard is narrow; we review only to ensure that the agency "examine[d] the relevant data and articulate[d] a satisfactory explanation for its action" and will not "substitute [our] judgment for that of the agency." *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.,* 463 U.S. 29, 43 (1983). In addition, we will give an extreme degree of deference to the agency when it "is evaluating scientific data within its technical expertise." *International Fabricare Inst. v. EPA,* 972 F.2d 384, 389 (D.C. Cir. 1992); *see also Marsh v. Oregon Natural Resources Council,* 490 U.S. 360, 377 (1989).

Hüls offers two arguments as to why application of the EPA's general approach to delisting under section 302 is arbitrary and capricious in regard to IPDI. Hüls first challenges the classification of IPDI as extremely hazardous based upon the aerosol tests, on the grounds that these tests used artificially high concentrations of IPDI and that conclusions regarding exposure to IPDI in an aerosol form are in no way indicative of the effects of exposure to IPDI vapor. The characterization of IPDI as acutely toxic based on tests with concentration levels well beyond IPDI's saturated vapor concentration might seem counterintuitive, but the EPA offers a reasoned explanation for this approach. In its denial of Hüls' petition the EPA noted that toxicity tests commonly subject animals to conditions not likely to be replicated in reality. *See Petition Denial,* 59 Fed. Reg. at 51,819. As many commentators have discussed, the effects of low level exposure to a chemical may not be apparent from a test that involves a small number of animals but it is too expensive and cumbersome to test the large number of animals necessary to accurately determine these low level effects. Instead, animals are exposed to chemicals at artificially high levels and dose-response models are used to extrapolate the risk associated with more realistic levels of exposure. *See, e.g.,* ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 485-86 (1992); David D. Doniger, *Federal Regulation of Vinyl Chloride: A Short Course in the Law and Policy of Toxic Substances Control,* 7 ECOL. L.Q. 500, 512-14 (1978). This court previously upheld the EPA's use of data on the toxic effects associated with high exposure to conclude that any exposure may produce toxic effects. *See Environmental Defense Fund v. EPA,* 598 F.2d 62, 87 n.95 (D.C. Cir. 1978)

(supporting the use of high exposure studies of PCBs in determining that any exposure to PCBs could pose a risk).

Consequently, much of the toxicity data on different chemicals may be derived from tests employing extreme exposures, and it was reasonable for the EPA to ignore testing conditions when determining which chemicals should be classified as acutely toxic. The extreme conditions of the aerosol tests of IPDI do not change "[t]he fact ... that IPDI is toxic at low levels ... compared to other chemicals." *Petition Denial,* 59 Fed. Reg. at 51,819.[10] Hüls argues that the fact that extreme exposures are generally used in toxicity testing does not justify the EPA's reliance on the aerosol tests, because toxicity tests usually involve high concentrations of substances in vapor form. Hüls maintains that no conclusions regarding IPDI vapor can be drawn from the aerosol tests because of the difficulty involved in extrapolating across physical states. But the validity of such an extrapolation represents the type of technical question that we believe merits deference to the expertise of the EPA. *See Environmental Defense Fund,* 598 F.2d at 83-84 ("EPA, not the court, has the technical expertise to decide what inferences may be drawn from the characteristics of related substances").

In addition, this case can be distinguished from other situations where we have found the EPA's regulation of substances to be arbitrary because the EPA relied on unrealistic assumptions. This is not a case where the EPA is choosing to rely on unrealistic data when more accurate information is available. *See, e.g., Leather Indus. v. EPA,* 40 F.3d 392, 403 (D.C. Cir. 1994) (EPA's reliance on assumptions arbitrary where record contained contradictory information). IPDI has a very low vapor pressure and a correspondingly low saturated vapor concentration. At this saturated vapor concentration IPDI does not produce demonstrable toxic effects. A measure of IPDI's toxicity can only be obtained by using higher concentrations of IPDI, and given IPDI's low vapor pressure, creating higher concentrations necessitates using IPDI in aerosol form. Furthermore, the record suggests that aerosol IPDI potentially could be released at toxic levels. Hüls acknowledged that toxic

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[10]It bears noting that Hüls has not alleged that the aerosol tests of IPDI were flawed or produced inaccurate results. *See, e.g., Petition of Hüls America Inc.,* JA 8 (hereinafter *Petition*). Thus, there is no reason to question the EPA's conclusion, based on the aerosol tests, that IPDI has an LC_{50} of .26 mg/l.

levels of aerosol IPDI theoretically might be created if an explosion occurred next to IPDI material, but maintained that such an event was extremely unlikely. *See Petition,* JA 9. Although the EPA did not refer to the possibility of aerosol exposure resulting from an explosion, it appears from the petition denial that the EPA believed exposure to aerosol IPDI to be conceivable. The EPA specifically noted Hüls' claim that creating IPDI aerosol requires "unusual measures" and characterized Hüls' argument as being "that the [aerosol] test ... subjects animals to extreme conditions *not likely* to be found in reality." *Petition Denial,* 59 Fed. Reg. at 51,819 (emphasis added). We therefore conclude that the EPA's reliance on aerosol tests of IPDI to establish IPDI's inhalation toxicity was not arbitrary and capricious, even though these tests utilize artificially high concentrations of IPDI and involve aerosol IPDI instead of IPDI vapor.

Hüls also claims that the EPA's decision to deny delisting is arbitrary and capricious because, even granting that IPDI is acutely toxic, the other physical and chemical properties of IPDI render it overall a very low risk insofar as off-site exposure is concerned. The information submitted by Hüls demonstrates that IPDI is not volatile or flammable and has a low reactivity with water. This evidence indicates that IPDI would be unlikely to become airborne and disperse if an accidental release of IPDI were to occur. Notably, however, this evidence does not contradict the EPA's finding that IPDI is an acutely toxic substance because it has an LC_{50} of 0.26 mg/l over a four hour period. In the petition denial, the EPA explained that it believed that the data on IPDI's toxicity was sound and that it was denying delisting primarily because IPDI was a highly toxic substance. *See Petition Denial,* 59 Fed. Reg. at 51,819. Although the EPA unfortunately did not elaborate much further, this statement does emphasize that a significant health hazard for the surrounding community might exist if off-site exposure did occur, no matter how remote the possibility.

In the petition denial, the EPA frequently referred to the description of the EHS listing methodology in the interim and final rules. *See id.* at 51,816-17, 51,819. The final rule offers a justification for not considering the physical and chemical properties of substances in determining whether to remove a substance from the EHS list:

> Physical and chemical properties of substances ... are not used as criteria for listing because each chemical could be handled at non-ambient conditions. Because of the

> very variable conditions, the Agency believes it is appropriate to deal with factors such as ability to disperse and physical/chemical properties on a site-specific basis.

Final Rule, 52 Fed. Reg. at 13,388.[11] In the introduction to the petition denial the EPA repeated that the potential hazard represented by an EHS list substance chemical depends on how it is used:

> [t]he identification of a chemical that meets the EHS criteria does not in itself indicate the potential for serious effects in any release.... Rather, such identification indicates a need for the community to undertake a program to investigate and evaluate the potential for accidental exposure associated with the production, storage or handling of the chemical at a particular site.

Petition Denial, 59 Fed. Reg. at 51,816. Again, the EPA's explanation is too cryptic for our tastes; yet we can understand the EPA to be discounting Hüls' claim that off-site exposure of IPDI was extremely unlikely because the possibility of such exposure might increase with different conditions.

Finally, Huls' reliance on *Chemical Manufacturer's Association* and *Edison Electric Institute* is misplaced. Those cases involved instances where the record was barren of any rational relationship between the methodology used by the EPA to set regulatory levels and the known behavior of the substance to which this methodology was applied. *See, e.g., Chemical Mfrs. Ass'n,* 28 F.3d at 1265-66 (EPA's use of generic air dispersion model to set emissions levels was arbitrary where unrebutted evidence in the record indicated that substance did not behave as model assumed); *Edison Elec. Inst.,* 2 F.3d at 446 (no factual support indicating that waste mismanagement scenario envisioned by EPA was even plausible). Here, the EPA used data on the physical and chemical properties of IPDI in calculating the TPQ, and it is the TPQ that triggers the significant regulatory action under section 302. The fact that the EPA increased the TPQ for IPDI in response to the data contained in the petition demonstrates that the EPA did not ignore the known properties of IPDI.

While the EPA's discussion of the evidence on IPDI's physical and chemical properties is

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[11]Hüls claims that the final rule is a policy statement and that the EPA cannot rely on the discussion of physical and chemical properties in the final rule because doing so gives the final rule a binding effect to which it is not entitled. *See American Mining Congress v. Mine Safety & Health Admin.,* 995 F.2d 1106, 1111 (D.C. Cir. 1993) (distinguishing between policy statements and legislative rules on the ground that the policy statements cannot be given binding effect). This argument is mistaken. Leaving aside the question of whether the final rule really is merely a policy statement, the fact remains that the discussion of the role of physical and chemical properties in the final rule is directly responsive to Hüls' claim regarding IPDI. The final rule thus merits citing in its own right, whatever its legal status.

certainly "of less than ideal clarity," its comments are sufficient for us to discern its rationale for denying delisting. *Bowman Transp. Inc. v. Arkansas-Best Freight Sys., Inc.,* 419 U.S. 281, 286 (1974); *see also Atlantic Tele-Network, Inc. v. FCC,* 59 F.3d 1384, 1390-91 (D.C. Cir. 1995) (agency rationale still discernible even though agency did not address each of the petitioner's arguments). The EPA found that IPDI had been correctly classified as an acutely toxic substance and that off-site exposure of IPDI was conceivable, depending on the conditions at which IPDI is handled at a particular site. Thus, we find that the EPA's decision to deny delisting of IPDI was not arbitrary and capricious.

CONCLUSION

We conclude that the EPA's approach of using toxicity as the sole criterion for determining revisions to the EHS list represents a permissible construction of section 302 and that the EPA's application of this approach to IPDI was not arbitrary and capricious. We therefore affirm the grant of summary judgment.

So ordered.